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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/795,769	03/08/2004	Michael Lee Rudolph	IM1319USNA	4094
23906 7590 04/06/2007 E I DU PONT DE NEMOURS AND COMPANY LEGAL PATENT RECORDS CENTER BARLEY MILL PLAZA 25/1128 4417 LANCASTER PIKE WILMINGTON, DE 19805			EXAMINER WALKE, AMANDA C	
			ART UNIT 1752	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			04/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/795,769

Applicant(s)

RUDOLPH ET AL.

Examiner

Amanda C. Walke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-74 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-74 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

DETAILED ACTION

In light of applicant's arguments, the rejections of record have been withdrawn. An updated search has been performed, and new rejections based upon the art found appear below.

Double Patenting

1. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

2. Claims 1, 4-16, 18, 23, 25-29, 44-46, 50, and 53 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1, 5-9, 11-17, 19, 21, 24, 26, 27-34, and 36 of copending Application No. 10/507950. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

3. Claims 1, 4-16, 18, 23, 25-29, 44-46, 50, and 53 are directed to the same invention as that of claims of commonly assigned 10/507950. The issue of priority under 35 U.S.C. 102(g) and possibly 35 U.S.C. 102(f) of this single invention must be resolved.

Since the U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302), the assignee is required to state which entity is the prior inventor of the conflicting subject matter. A terminal disclaimer has no effect in this situation since the basis for refusing more

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than one patent is priority of invention under 35 U.S.C. 102(f) or (g) and not an extension of monopoly.

Failure to comply with this requirement will result in a holding of abandonment of this application.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(f) he did not himself invent the subject matter sought to be patented.

5. Claims 1, 4-16, 18, 23, 25-29, 44-46, 50, and 53 rejected under 35 U.S.C. 102(f) because the applicant did not invent the claimed subject matter. In commonly assigned US 2005/0142480, Bode et al. teach an identical photosensitive element for use as a flexographic printing plate having a matted layer. See rejection under 35 USC 101.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daems et al (6,551,759) in view of any Frass et al (5,576, 137) or Horsten et al (WO 94/11198).

Daems et al disclose direct-to-plate flexographic printing plate precursor is disclosed comprising in the order given, a flexible support, a photopolymerizable layer containing an elastomeric binder, an image recording layer comprising a thermoplastic binder and optionally a cover layer. Preferred thermoplastic binders for use in the image recording layer are polyesters, poly(meth)acrylates, polyvinylacetates or copolymers thereof or elastomeric polyurethane resins. Suitable commercially available binders are Dynapol S1404 (from Huls A. G.), Carboset 525 (from Goodrich), Mowilith CT5 (from Hoechst), Vitel VPE5545 (from Goodyear) and Vinnapas B100 (from Wacker Chemie). According to the present invention the image recording layer is preferably a laser ablatable layer that further comprises a light absorbing compound. Preferred light absorbing compounds are IR-absorbing dyes such as phthalocyanines or derivatives, cyanine dyes, merocyanine dyes and polymethine dyes or inorganic pigments such as carbon black, graphite, iron oxide or chromium oxide. Preferably carbon black is used. Furthermore carbon black renders the ablatable layer opaque to UV radiation, so there is no need to add an additional UV-absorbing dye. It is particularly preferred to use fine-grained carbon black with a mean particle size below 30 nm which is commercially available as Printex.RTM. U, Printex.RTM. L6, Specialschwarz 4 or Specialschwarz 250 (all trademarks from Degussa). Suitable supports for the imaging material of the present invention are flexible but dimensionally stable materials such as films of polyethylene terephthalate, cellulose triacetate, polyethylene naphthalate, polybutylene terephthalate or polycarbonate that have a sufficiently high modulus. Also metal supports can be used. [0018] A photopolymerizable layer containing an elastomeric binder is provided onto the support. A preferred elastomeric binder is a photopolymerizable polyurethane resin derived from polymer forming reactions of (a) 10-50% by weight of at least

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one diisocyanate, (b) 0.5-20% by weight of a first chain extension agent having at least two free hydrogen groups and having at least one ethylenically unsaturated addition polymerizable group per molecule (optionally, a second chain extension agent may be present having at least two free hydrogen groups (0.5-20% by weight)) and (c) 10-70% by weight of an organic polyol having a molecular weight of at least 500 and containing at least two free hydrogen groups per molecule.

The polyurethane resins used in the present invention have a molecular weight of at least 10,000 and a glass transition temperature of less than 65.degree. C. The polyurethane resins belong to a class of polymers known as segmented copolymers or multiphase polymers. The elastomeric properties of these polymers result from phase separation between so called 'hard' segment domains and 'soft' segment domains. The two phases are thought to exist as separate phases within the polymer. 25-70% of the segment domains are 'soft' segment domains. The photopolymerizable layer further comprises a free radical photoinitiator (0.5 to 8% by weight of the elastomer). Other additives such as dyes, pigments or fillers can be present. [0019]

Optionally a primer layer is provided between the support and the photopolymerizable layer.

This layer preferably comprises aziridine functional compounds. The aziridine functional compounds are used in an amount of at least 10% by weight solids of the primer layer. The aziridine functional compounds may be diluted with solids that comprise inert compatible polymeric organic binders, coupling agents, particulates, comonomers, other priming agents and the like. The aziridine functional compound may also contain other functional groups. Preferably these groups are not reactive with the aziridine functionality under ambient conditions. Thus, for example, the aziridine-functional compound may also contain one or more hydroxyl groups.

Specific examples of aziridine functional compounds can be found in WO-A-92 21069.

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Furthermore according to the present invention an antistatic layer can be present between the photopolymerizable layer and the image recording layer. Preferably a vanadium oxide antistatic layer is applied as described in EP-A-573 365. [0021] Optionally a cover layer can be applied on top of the image recording layer. Suitable cover layers comprise films of polyethylene terephthalate, cellulose triacetate, polypropylene, and polyethylene. Also resin coated paper or carriers coated with a release agent such as carnauba wax, organic silicones, tetrafluoroethylene telomers etc. can be used. [0022] According to the method of the present invention, after optional removal of the cover layer the flexographic printing plate precursor is image-wise exposed to form a mask. Preferred devices used for image-wise exposure are Nd/YAG lasers (1064 nm) or diode lasers (e.g. 830 nm). After the image-wise exposure the material is subjected to flood exposure with UV-light through the mask. Subsequently the flexographic printing plate precursor is developed by contacting the image recording layer with an absorbent material while heating by convection, conduction or other heating methods to a temperature sufficiently high to liquefy the unexposed areas of the photopolymerizable layer and the mask. Hereby the unexposed areas of the photopolymerizable layer as well as the mask are thermally liquefied and transferred onto the absorbent material. Preferably the flexographic printing plate precursor is heated to a temperature between 50.degree. C. and 130.degree. C. The absorbent material has preferably a melting or softening temperature higher than the melting temperature of the elastomeric polyurethane resin and the thermoplastic binder of the image recording layer. The absorbent material is selected from non-woven web materials, paper stocks, fibrous woven materials, open-celled foam materials, porous sheets or other sheet materials which contain, more or less, a substantial fraction of their included volume as void volume. Preferably non-woven web

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materials made from polyesters, nylon or other high temperature melting thermoplastic polymers are used. Suitable commercially available non-woven web materials are Cerex (James River Corporation) and Soft Wipers White cleaning cloth (no. 010932 from EVI). In order to remove all the unexposed material together with the mask, the absorbent material is preferably contacted with the image recording layer at least three times. After separation of the absorbent material and cooling to room temperature, the flexographic printing plate can be mounted onto a printing press. While the reference teaches that a cover layer may be employed, the reference fails to teach the specifics of the layer.

Both Frass et al and Horsten et al teach matting layers/protective layers for flexographic plates comprising matte particles. These particles may be polymeric and are present in amounts of greater than or equal to 10% by weight of the layer in a binder (see column 3, line 50 to column 5, line 35 of Frass and the abstract and page 3 of Horsten). Having the particles in these amounts protects the underlying radiation sensitive layer.

Given the teachings of the references, it would have been obvious to one of ordinary skill in the art to prepare the material of Daems et al choosing to employ the particles of either Frass et al or Horsten et al given that they are known and advantageous in the cover layers of such materials.

8. Claims 1-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda et al (EP 465034) in view of Frass et al or Horsten et al.

Ueda et al disclose a photosensitive resin composition for flexographic printing. The material comprises a support, a photosensitive resin layer and a matte layer, wherein the matte

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layer contains a polymerization inhibiting material (abstract; page 4, lines 6-11). The photosensitive resin layer can be any of the photosensitive layers known in the art (page 3, line 56 – page 4, line 5). Specifically Ueda et al. point to the photosensitive layer of US Patent No. 4,323,637 which comprises thermoplastic, elastomeric, block copolymer, a nongaseous ethylenically unsaturated compound, and an addition polymerization initiator (US 4,323,637 abstract). The matte layer is a resin matte layer comprising resins, dyes, inorganic particles (such as silica), organic microparticles, surfactants, distilled water and a polymerization inhibitor (page 2, line 36 – page 3, line 55). See Example 1. While Ueda et al. do not teach the specific characteristics of the silica inorganic particles such as the pore volume, BET surface, or oil number as instantly claimed, it is the Examiner's position the silica inorganic particles, also taught and preferred by Applicant (see page 8 of the instant specification), meet the present limitations for the matting agent because these inherent characteristics are expected to fall within the required ranges. The reference is silent with respect to the preferred amount.

Both Frass et al and Horsten et al teach matting layers/protective layers for flexographic plates comprising matte particles. These particles may be polymeric and are present in amounts of greater than or equal to 10% by weight of the layer in a binder (see column 3, line 50 to column 5, line 35 of Frass and the abstract and page 3 of Horsten). Having the particles in these amounts protects the underlying radiation sensitive layer.

Given the teachings of the references, it would have been obvious to one of ordinary skill in the art to prepare the material of Ueda et al choosing to employ the matte particles in an amount as taught to be advantageous of either Frass et al or Horsten et al given that they are known and advantageous in the cover layers of such materials.

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9. Claims 1-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto et al (6,897,006) in view of Frass et al or Horsten et al.

Fujimoto et al. teach a multilayered photosensitive material for processing into a flexographic printing plate comprising a substrate, a photosensitive layer, a barrier layer and a masking layer wherein the photosensitive layer contains an elastomeric binder resin, a polymerizable monomeric compound and a polymerization initiator and the masking layer contains an infrared absorbing compound (abstract). The barrier layer has a low permeability to oxygen and protects the surface of the photosensitive layer, is capable of being removed by the developer after exposure to light and comprise polyvinyl pyrrolidone or an alkali-soluble cellulose derivative (column 5, line 26 - column 6, line 48). The polyvinyl pyrrolidone meets the present limitations for the matting agent having at least one crosslinkable group. See also column 7, line 24 – column 11, line 53 & Examples). The reference fails to teach a preferred amount of matting agent.

Both Frass et al and Horsten et al teach matting layers/protective layers for flexographic plates comprising matte particles. These particles may be polymeric and are present in amounts of greater than or equal to 10% by weight of the layer in a binder (see column 3, line 50 to column 5, line 35 of Frass and the abstract and page 3 of Horsten). Having the particles in these amounts protects the underlying radiation sensitive layer.

Given the teachings of the references, it would have been obvious to one of ordinary skill in the art to prepare the material of Fujimoto et al choosing to employ the matte particles in an amount as taught to be advantageous of either Frass et al or Horsten et al given that they are known and advantageous in the cover layers of such materials.

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10. Claims 1-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over De Voeght et al (6,994,026) in view of Frass et al or Horsten et al.

De Voeght et al disclose a method for the preparation of a flexographic printing plate is disclosed. In this method an ink jet image is used as mask for the exposure of a flexo plate precursor. The ink jet recording material is composed of several layers and comprises a binder, a cationic mordant and a spacing agent in its top layer. The invention comprises a method for the preparation of a flexographic printing plate involving the following steps, in order: (1) preparing an ink jet recording material comprising (i) a transparent support having front and back sides, and (ii) at the front side a layer assemblage of at least two ink receiving layers, comprising a binder, a cationic mordant in at least one of these layers, and further a spacing agent in the top layer of said assemblage, (2) jetting information-wise, according to digitally stored data, droplets of an UV-absorbing ink onto the front side of said ink jet recording material by means of an ink jet printer, thus forming a screened printed ink jet image, (3) flood exposing by actinic light a flexographic printing plate precursor through a master consisting of the ink jet image obtained by steps (1) and (2), (4) developing the exposed flexographic printing plate precursor into a flexographic printing plate. The nature and concentration of the spacing agent present in the top layer of the ink receiving pack must be chosen so that the best compromise between full-area density and transparency of the non-printed areas is obtained. Classes of useful spacing agents include following: amorphous or crystalline silica particles preferably having an average particle size between 0.1 and 15 μm ; polymethylmethacrylate beads or a derivative thereof such as copoly(methylmethacrylate-stearyl methacrylate 98%/2%), stabilized by poly(styrene-maleic acid, sodium salt); copolymers of methacrylic acid with methyl- or ethylmethacrylate;

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TOSPEARL siloxane particles, trade name of Toshiba Co.; SEAHOSTAR polysiloxane--silica particles (e.g. type KE-P50), trade name of Nippon Shokubai Co.; CHEMIPEARL, spherical polymeric particles, marketed by Misui Petrochemical Industries, Ltd.; the spherical polymeric beads disclosed in U.S. Pat. No. 4,861,818; the alkali-soluble beads of U.S. Pat. No. 4,906,560 and EP 584407; the insoluble polymeric beads disclosed in EP 466982. While DeVoeht et al. do not teach the specific characteristics of the silica inorganic particles such as the pore volume, BET surface, or oil number as instantly claimed, it is the Examiner's position the silica inorganic particles, also taught and preferred by Applicant (see page 8 of the instant specification), meet the present limitations for the matting agent because these inherent characteristics are expected to fall within the required ranges. The reference is silent with respect to a preferred amount of matte particle.

Both Frass et al and Horsten et al teach matting layers/protective layers for flexographic plates comprising matte particles. These particles may be polymeric and are present in amounts of greater than or equal to 10% by weight of the layer in a binder (see column 3, line 50 to column 5, line 35 of Frass and the abstract and page 3 of Horsten). Having the particles in these amounts protects the underlying radiation sensitive layer.

Given the teachings of the references, it would have been obvious to one of ordinary skill in the art to prepare the material of De Voeght et al choosing to employ the matte particles in an amount as taught to be advantageous of either Frass et al or Horsten et al given that they are known and advantageous in the cover layers of such materials.

Response to Arguments

11. Applicant's arguments filed 12/4/2006 have been fully considered but they are not persuasive. Applicant has argued that the references of record fail to teach the matting agents in the newly claimed amount. In response, new rejections have been formulated to respond to the amendments.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C. Walke whose telephone number is 571-272-1337. The examiner can normally be reached on M-R 5:30-4.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amanda C Walke
Primary Examiner
Art Unit 1752

ACW
March 31, 2007


AMANDA WALKE
PRIMARY EXAMINER